

SERIES BN: Needs Assessment and Evaluation

# MENTAL HEALTH SERVICE SYSTEM REPORTS

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES Public Health Service Alcohol, Drug Abuse, and Mental Health Administration National Institute of Mental Health

Series BN No. 3







## **Small Area Social Indicators**

By
Harold F. Goldsmith
Anne S. Lee
and
Beatrice M. Rosen

U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Alcohol, Drug Abuse, and Mental Health Administration

National Institute of Mental Health Division of Biometry and Epidemiology 5600 Fishers Lane Rockville, Maryland 20857 This monograph is an adaptation of two papers: "Small Areas Social Indicators From the 1980 Decennial Census," prepared and presented by Harold F. Goldsmith, Ph.D., Division of Mental Health Service Programs (DMHSP), National Institute of Mental Health (NIMH), at the Annual Conference of The New England Children's Mental Health Task Force, April 1980, and "An Evaluation of the Mental Health Demographic Profile System With Special Reference to the South," by Anne S. Lee, Ph.D., February 1980, prepared under contract number 79MO335229 from DMHSP, NIMH. Mrs. Beatrice M. Rosen, Division of Biometry and Epidemiology, NIMH, and Dr. Goldsmith prepared the first draft of the monograph, which was revised by Dr. Lee and Mrs. Rosen.

All material appearing in this monograph, except quoted passages from copyrighted sources, is in the public domain and may be reproduced or copied without permission from the Institute or the authors. Citation of the source is appreciated.

## Suggested Citation

National Institute of Mental Health. Series BN No. 3, Small Area Social Indicators, by Goldsmith, H.F.; Lee, A.S.; and Rosen, B.M. DHHS Pub. No. (ADM)82-1189. Washington, D.C.: Supt. of Docs. U.S. Govt. Print. Off., 1982.

## **Contents**

		Page
Pre	face	,
Inti	roduction	1
The	e Decennial Census: Content and Constraints	5
Sma	all Area Social Indicators	5
	ocating Areas With High Potential Risk or Special Needs for Mental Health Services	(
	ocating Residential Populations of Areas With High Potential Risk or Special Needs for Mental Health Services	(
D	Determining Specific Service Needs Based Upon Average Background Characteristics	
Id	dentifying Atypical Persons in Residential Neighborhoods and Assessing Area Homogeneity	,
E	stimating the Level of Mental Disability or Service Utilization in Small Areas	,
The	e 1980 Mental Health Demographic Profile System	
	nitations of Census Data	1
	Vatural Residential Environments	1
P	lace of Work Data	1
11	Demand for Mental Health Services	1: 1:
	aclusion	1:
	erences	14
Kei	erences	1
	List of Exhibits	
Exhi	bits	
1.	Summary Descriptions of Questions in the 1980 Census	10
2.	Census Bureau Geographic Units—Their Hierarchical Relationships	1′
3.	Geographic Subdivisions of an SMSA	18
4.	Selected Definitions of Census Geographic Divisions	19
5.	Percentage Distribution of Psychiatric Episode Rates by Economic Status, Social Status, Educational Status of the Common Areas of Monroe County, New York, 1970: White Population	20
6.	An Illustrative List of Small Area Social Indicators From the 1970 Mental Health Demographic Profile System (MHDPS) That Can Be	

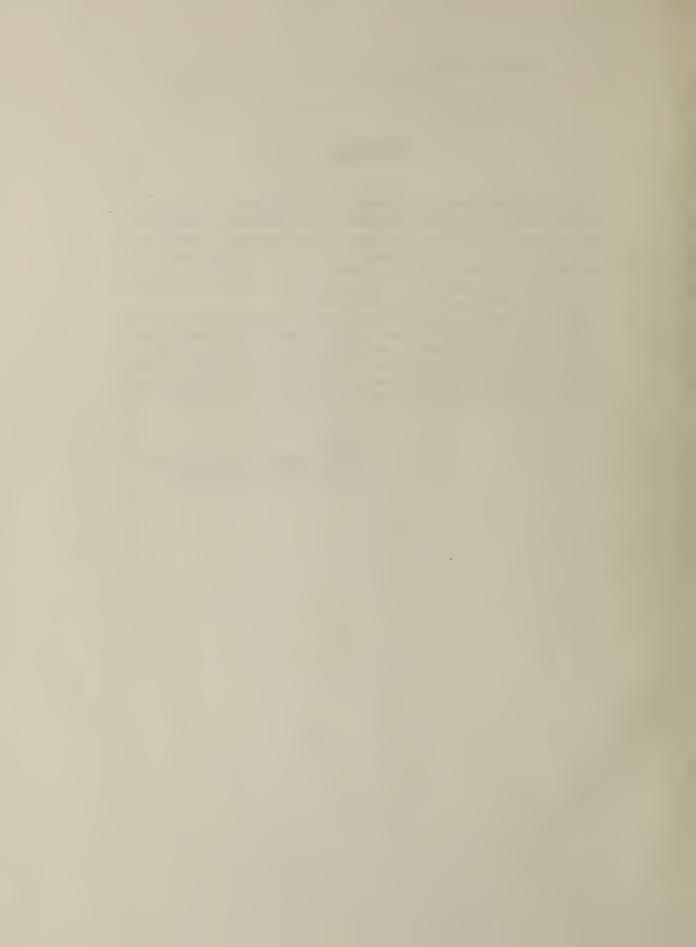
		Page
	Used to Locate Areas With Concentrations of Children With High Probabilities of Health and Mental Health Problems	21
7.	Small Area Social Indicators of Selected Low Income Apartment House Areas: White Population 1970	22
8.	Example of Use of Denominator Data With Utilization Data	23
9.	The 1970 Mental Health Demographic Profile	24
10.	The 1980 Mental Health Demographic Profile	28
11.	Race and Ethnic Populations for Which the 1980 Mental Health Demographic Profile System Will Provide Data	30

## **Preface**

As part of the Mental Health Service System Reports, Series BN, "Need Assessment and Evaluation," this report is the first in a set of monographs that will describe how the small area social indicators in the Mental Health Demographic Profile System (MHDPS) can be used in health and mental health epidemiology, need assessment, and program evaluation. The MHDPS is unique in that it will contain 1970 and 1980 data for small areas such as census tracts, and large areas such as States—data that are useful for both basic research and program monitoring.

This first monograph in the MHDPS set outlines the social indicators in the 1980 MHDPS standard tables and illustrates how different types of need assessment problems can be solved using the data. Future monographs in the set will present the standard and nonstandard tables in the System, provide an introduction to census demography as it relates to mental health, clarify how and why one would do a social area analysis, and describe how to order a population by its need for mental health services.

Darrel A. Regier, M.D., M.P.H. Director Division of Biometry and Epidemiology National Institute of Mental Health



## Introduction

Residential area characteristics are associated with the likelihood, type and intensity of mental illness as well as the availability of mental health services. Small area social indicators can be used to index important residential characteristics and as a result are recognized by health and mental health professionals as indispensable resources for program evaluation, basic ecological research and need assessment (Goldsmith 1980; Rosen, Goldsmith, and Redick 1979). While the precise contributions of residential environments (households, neighborhoods, local residential areas, communities, and central places) are not known, there is sufficient knowledge of the theoretical and empirical relationships between types of residential areas and mental disability to provide crude but useful information for mental health planning (Goldsmith and Unger 1970; Redick, Goldsmith, and Unger 1971).

Major resources for small area data are the decennial censuses. April 1, 1980 marked the twentieth time the United States has undertaken a census, and data from that census will be made available to the public during the next 3 years. Like the censuses which preceded it, the 1980 Census of Population and Housing will provide detailed information about the social and economic characteristics of a wide variety of residential areas, ranging from the neighborhood to the Nation as a whole.

The usefulness of the census as a source for small area social indicators was noted early. Francis A. Walker (1872) wrote of this in his report on the Ninth Census, and as early as the mid-1920's social scientists were using small area social indicators from the United States Census of Population and Housing as a readily available low cost way to do mental and other health need assessment (see Abbott 1936 and Burgess 1926). Nowhere except from a census are such uniform and rich data provided for every part of the country. Despite this, decennial census data have tended to be underutilized in the assessment process. The reasons for this are varied. Some health planners have been unaware of the avail-

ability of census data for small areas, others have not had ready access to usable data for individual service areas, and still others have been awed by the problems involved in manipulating such a large data set. Moreover, some health workers have lacked the necessary skills and sophistication to transform raw census data into meaningful forms for use in need assessment.

It was to address such problems that the Mental Health Demographic Profile System (MHDPS) was devised. Since 1970 the MHDPS has been a major source of small area social indicators for mental health and other health planners. This system was originally designed to provide the appropriate small area social indicators from the 1970 Census of Population and Housing to be used in need assessment as well as ecological research. In its 1970 form it contained over 160 social indicators for census tracts, minor civil divisions (MCDs), census county divisions (CCDs), counties, States, and special areas which are aggregates of standard census units. Although the indicators are presented separately, analytical groupings are provided, as well as comparative measures (Rosen et al. 1975).

Three basic approaches were used to develop the MHDPS. Based on studies which showed that "social and economic characteristics of areas have related significantly to the incidence of such phenomena as mental illness, mental retardation, social disorganization, alcoholism, juvenile deliquency, . . . . " (Rosen et al. 1975, p. 1), the system provides data for characterizing areas and comparing them along nine broad socioeconomic dimensions. At the same time the MHDPS provides data on the actual population living in catchment areas so that local health professionals can estimate service needs. And finally, since there is now widespread recognition that planning individual health care involves the assessment of risk factors and the identification of high risk populations, the system singles out special target populations within a catchment area. Essentially, one approach identifies areas where services are needed, while the others seek to identify persons who may require services.

While health planners, epidemiologists, ecologists, and other social scientists have found the 1970 MHDPS data to be valuable, these data are now out of date. Plans are under way, however, to revise the system so that it can include data from the 1980 Decennial Census as they become available. The National Institute of Mental Health (NIMH), in cooperation

with the National Center for Health Statistics (NCHS), plans an information system that includes 1970, 1980, and perhaps, 1960 "census data and other resource data items in its data base complete with the software that allows for easy access to any items" (Shambaugh et al. 1979).

## The Decennial Census: Content and Constraints

While census-derived indicators are highly useful, their optimal utilization requires an understanding of what they can and cannot do. The basic provision for the census derives from the Constitutional requirement that a census be taken every 10 years to determine congressional representation. From the very beginning, however, it was recognized that the scope of the census should exceed that simple mandate. As a result, no other American data bank rivals the comprehensiveness of the census for providing uniform data for every part of the country and for enabling the researcher to make comparisons across areas and over time. Because of this, more Federal (and State) programs are being predicated upon meeting needs which. have been documented using census data. At the same time, however, the scope of the census and its legislative mandate dictate the kinds of information which will be collected and the form and amount of data which will be released.

The number of items which are included on the census schedule is limited and those that exist reflect an attempt by bureau staff to accommodate ofttimes competing demands of political priority, historical continuity, answerability, national sensitivities, and to strike a balance among the various constituencies that use the data. As a result, many useful items of information are unavailable from the census and those which are available may not be in the form one would prefer. Once the schedules have been determined and the answers coded, it becomes the user's responsibility to manipulate the data to meet his own conceptual demands.

A second constraint in using census data is that they are collected for two types of units—persons and households; moreover, for these units, not all questions are asked on a 100 percent basis. Since 1940, the Bureau of the Census has employed a sampling procedure to obtain detailed socioeconomic data (exhibit 1). In 1980, the 100 percent questions (collected for every resident of the United States and citizens living outside the United States or its territories) provided 16 items—age, sex, race, and marital status as well as several housing statistics. Sample data on such diverse

subjects as socioeconomic status, migration, fertility, place of employment, and housing characteristics were obtained for approximately 17 percent of the resident households and their members in the United States or its territories. While answers are obtained for individuals and households, not all the data collected are released. Confidentiality is a cardinal tenet of the Census Bureau. No information is ever released that would enable a census user to identify an individual or household either directly or indirectly. The smaller the area, therefore, the greater the probability that data will be suppressed.

Like the census schedule's content, census geography (exhibits 2 and 3) reflects a balance among conflicting demands. Many of the geographical areas for which census data are presented reflect administrative (e.g., census tracts) or political (e.g., MCDs) expediency. Others, like standard metropolitan statistical areas (SMSAs) or State economic areas (SEAs), are attempts to derive conceptually useful combinations. While it is possible to manipulate census units so that they approximate health and mental health service areas, the underlying units must conform to basic census geography. Definitions of areas or regions, not as well known as States and counties, are presented in exhibits 3 and 4.

The most serious limitation of census data relates to its accuracy and timeliness. Decennial census data are most valuable for the first few years after a census. During this period, particularly for the nonpoor and the nonminority populations, the data are reasonably accurate. For minority populations (blacks, Spanish heritage persons, and others), and the poor, this may not be the case. Since considerable underenumeration of such groups may occur, a cautious use of the small area characteristics of these populations is required. As the number of years after a census increases, decennial census data are of less value since they no longer provide an accurate characterization of the population of an area. This is true to an even greater extent for areas of high mobility and rapid change.

The nature of the user and the uses to which the census data are put also influence useful life spans. As

a planning tool, the life span is relatively short unless methods can be provided for updating beyond the census year through links to other systems or through the provision of applicable estimating techniques. As an evaluation tool, the useful life of census-based data is considerably longer. Not only can they provide baselines for assessing the effectiveness of new and established programs, but intercensal comparisons can be made by accessing more than one census, provided the data are in comparable form. As an analytical tool, small area census indicators have the least timeliness

orientation because of the basic nature of the questions being asked and because the focus may be historical as well as comparative.

All of these contraints apply to any user of census data. The difficulties they represent need to be understood to use these materials effectively, but they are minimal in comparison with the advantages. Moreover, the availability of aids like the MHDPS brings the census within reach of the less sophisticated analyst.

## **Small Area Social Indicators**

The term 'need assessment' subsumes a variety of activities since assessment can take place at different levels. For each of these, census-derived indicators can provide data. Small area social indicators can be generated in order to:

- locate places with high risk of mental or physical disabilities or with special needs for mental or other health services,
- estimate the needs of residential areas for service.
- provide information about specific service needs based on average background characteristics (social area analysis), and
- provide estimates of the degree of homogeneity in a population or small residential area.

This latter condition may have significant behavioral ramifications for both the typical and atypical residents of small areas. The residential area chosen for assessment may be varied by selecting different combinations of census-building blocks. It is possible to place an area's characteristics in the context of those surrounding it or to compare one area with another with similar (or differing) characteristics so that a variety of areas can be delineated.

Another approach to need assessment examines populations rather than areas. Social indicators derived from the census can be used to estimate the number of persons in need of service and to deal with those needs according to priority. Within populations, subpopulations can also be identified to target high risk groups to provide information concerning atypical persons who may produce the high disability levels associated with some residential environments or populations and to target special programs (often required for Federal program funding). At the individual need assessment level, it is possible to use social area indicators to place the individuals in need of or receiving treatment in the social context of their residential or working area.

Since social indicators are available for different units, it is possible not only to examine very small areas, but also to combine these into larger areas for service delivery and to compare what the service needs would be for different combinations. In this regard, it is generally ac-

cepted that much of the important behavior related to residence can be understood and accounted for by considering three, and perhaps four, types of residential areas (Greer 1962). The three residential types distinguished are the household, the neighborhood, and the local residential area. Some social ecologists would add the municipality (city, town, or county) as a fourth type of residential area (Greer 1962). The rationale for identifying these types of areas is the probability of the observation of different kinds of behavior and social action. These areas can be defined in terms of census units. The most important residential area may be the neighborhood. A neighborhood can be viewed as a set of contiguous households and represents a person's (or household's) immediate residential environment. As such, the neighborhood tends to be the site of informal communication, interhousehold visiting patterns, mutual aid, and friendship or animosity. Census blocks or enumeration districts are the small areas that approximate the neighborhood. Unfortunately, these may have less than 1,000 residents, so the amount of data published, or available, is severely restricted in order to ensure confidentiality.

The next larger area unit, 'the local residential area,' is made up of a number of neighborhoods. In metropolitan areas, the census tract, a unit with a population of about 4,000 persons, may approximate a local residential area. Outside of a metropolitan area, the MCD or CCD has many of the characteristics of the census tract. Because local residential environments—census tracts, MCDs, or CCDs—are the smallest residential units for which large amounts of data are available, they have been the areas most often used in epidemiological and ecological studies.

Small area social indicator methods have been referred to in mental health literature as the indirect method of doing need assessment and have generally been treated as a single methodology. However, as we have noted, rather than a single method of doing need assessment, small area social indicators are associated with a collection of related procedures that have different consequences and values for health and mental health planning and research. How methods can be used to solve some specific need assessment problems will now be demonstrated.

## Locating Areas With High Potential Risk or Special Needs for Mental Health Services

Numerous studies have established that some types of residential areas have higher prevalence and incidence levels of mental disability as well as higher demand for and utilization of mental health services than others. For example, poor areas as compared to affluent areas, or nonfamily areas (socially demoralized areas) as compared to husband-wife family areas, have higher prevalence levels of serious mental disability. These can be easily located using small area social indicators from a decennial census, provided they are not out of date. Thus, indicators such as "percent of persons in poverty" or "median family income" are often used to locate poor areas. Exhibit 5 clearly illustrates that measures of socioeconomic status can be used to locate small areas in a city that have high, median, or low levels of psychiatric utilization. Similarly, areas targeted to receive special services (those with high concentrations of unemployed, children, aged, blacks, or persons of Spanish heritage) can be easily located. An illustrative list of indicators from the 1970 Mental Health Demographic Profile System that can be used to locate areas with concentrations of children with high probabilities of health and mental health problems is presented in exhibit 6.

Closely linked to locating areas with high probabilities of mental disability (high risk areas) is the ranking of areas by relative risk levels. To the extent that it can be demonstrated that a given indicator like 'median family income' is highly correlated with 'area risk level,' the indicator can be used to order (or rank) areas by 'risk level.' This is simply an extension of the location problem. Often two or more small area social indicators will be combined to provide a hypothetical 'risk score.' While such scores are useful, they have serious methodological problems, and care must be exercised in their use (Jackson, Borgatta, and Goldsmith 1979).

## Locating Residential Populations of Areas With High Potential Risk or Special Needs for Mental Health Services

It must be recognized that identifying high risk areas can be useful, but it does not complete the assessment and planning process. Minimally, since a small residential area may contain more than one residential population (e.g., a rich white population and a poor black population), one must be able to identify the specific populations at risk. To do this, the social and economic characteristics of the populations of the residential area must be considered. Small area social indicators may be used to locate a high risk residential population such as the poor black population of the area just described, or a special target population such as black children in poverty. This can be accomplished by using an indicator like "percent of black persons in poverty" or "percent of black children in poverty."

It should be emphasized that locating residential populations with special needs or high disability levels is useful when determining the relative need for services; but as with locating areas, the criteria used to locate a population in a local residential environment may not provide the information necessary to assess specific mental health or health needs. Equally important, the simple act of locating a high risk or special need population fails to take into consideration residential context. Thus, the problems of poor blacks in predominantly black areas appear to be different from the problems of poor blacks in predominantly white areas (Rosen, Goldsmith, and Redick 1979).

# Determining Specific Service Needs Based Upon Average Background Characteristics

As noted, it is well established that different areas in large cities have different environments and life styles and that these differences are associated with the type and intensity of mental disability, and the need for, and perhaps the effectiveness of, health and mental health service modalities. A set of small area social indicators can identify these residential contexts and consequently, their associated life styles (Rosen, Goldsmith, and Redick 1979). The mental health relevance of identifying types of local residential environments in a city can be illustrated by considering low social rank populations residing in apartment houses. Finding at least two distinct life styles can be anticipated-one associated with the apartment houses located in transient, heterogeneous, nonfamily, local residential areas and the other associated with apartment house areas occupied by stable, culturally homogeneous families with some children, most likely an ethnic population. "The former is a lonely, anonymous building, the latter a bustling microsociety" (Gans 1968). In the latter population, often characterized as urban peasants, one expects to find a high degree of neighborliness that is concentrated in and limited to the local residential area. The large volume and stable support networks of such neighborhoods should control stress and reduce both the prevalence and willingness to use mental health services. It is in low social rank transient and heterogeneous apartment house areas that one anticipates high levels of social isolation and accompanying serious mental disability. Even

though both types of areas are low income apartment house areas, they clearly have different life styles and prevalence levels, and consequently different service requirements.

Since the life styles of distinct types of residential environments contribute to or are associated with the emergence and persistence of different types and levels of mental disability, one must know how to identify these different residential areas, particularly those significant for mental health purposes. This cannot be done using a single indicator. As noted in the illustration, low status areas can be located with a single indicator; but this does not reveal whether they are also nonfamily areas with very high levels of serious disability and utilization, or 'urban peasant' areas with moderate or low levels of serious disability and utilization. The common and significant life styles of residential areas can be identified only if a set of small area social indicators are used. Exhibit 7 illustrates how small area social indicators might be used to locate the two types of low income residential areas just discussed.

In 1970, an examination of the then existing literature suggested that the small area social indicators needed to delineate common and significant behavior were socioeconomic status and its components-economic status, social status, and educational status, as well as family status, family life cycle, residential life style, mobility, and heterogeneity (Goldsmith and Unger 1970; Redick, Goldsmith, and Unger 1971). Within areas, emergent behavior was believed to be related to the characteristics and relative size of the racial and ethnic populations in the local residential areas. The literature published since 1970 indicates that the 1970 dimensions continue to be the most useful small area social indicators. Operationally, indicators were generally identified by using the average background characteristics of a population or area such as "median income of families" and "percent of males in high or low status occupations" to index the economic status and the social status, respectively, of an area or population. In the mental health literature, the use of combinations of average background characteristics (medians, modes, percentages) to index dimensions such as economic status, family status, and ethnicity has been labeled social area analysis.

# Identifying Atypical Persons in Residential Neighborhoods and Assessing Area Homogeneity

It has usually been assumed by mental health professionals using small area social indicators that the characteristics of the dominant population of an area (generally

as indexed by average background characteristics) provide the necessary indicators of the environmental effects upon behavior attributable to local residential environments. This position, while useful, is incomplete for at least two important reasons. First, almost every local residential area has some atypical residents. These atypical residents may respond differently to their local residential environments than do the typical residents. This means that they may have different levels of mental disability from their neighbors who are typical of their neighborhoods or their peers who live in neighborhoods where they are also typical (Goldsmith et al. 1979). In fact it may be an atypical set of area residents that contributes to the high disability rates in areas that have been labeled high risk (areas with high prevalence rates). For example, in areas labeled high risk postchild launching areas (areas with large concentrations of older people as well as high mental disability rates), it may be that a comparatively few young prefamily households are also in these areas and contribute to the high disability rates observed. Second, it is expected that the degree of homogeneity in a population or local residential area has significant behavioral ramifications for both the typical and atypical members of the population or area. For example, in homogeneous neighborhoods or local residential environments (where populations are concentrated close to average background characteristics), the typical residents may interact and consequently have well developed social support networks, low manifest stress, and few stress-related mental disabilities; whereas the atypical persons, small in number, may be socially isolated and consequently have high stress-related mental disabilities. However, in moderately heterogeneous local residential environments, typical persons may have reduced social support networks and hence more stress-related disabilities, whereas atypical persons may be less socially isolated and may have reduced stress-related mental disabilities. These speculations are consistent with the observations of Klee and others that "mental disability increases as the relative and absolute size of an area population decreases compared to other area populations" (Klee 1967; Wilson 1971; Levy and Rowitz 1973).

# Estimating the Level of Mental Disability or Service Utilization in Small Areas

Small area social indicators can be used to provide numerical estimates of the need or demand for mental health services in areas or populations. This is done using the standard epidemiological approach to need assessment and assumes that "certain types of people as members of households have identifiable propensities toward mental disability" (Rosen, Goldsmith, and Redick 1979). Given prevalence or incidence levels by age, sex, race, and marital status, or other pertinent demographic characteristics, an aggregate estimate of mental disability can be established for areas or populations within areas, using census data. This can be done by simply multiplying the number of persons in a given category by the rate of disability for that category. Exhibit 8 illustrates how this might be done.

## The 1980 Mental Health Demographic Profile System

The 1980 Mental Health Demographic Profile System is being designed so that, compared to the 1970 system, it will have increased capacity to provide small area social indicators that can be used to solve the range of problems previously identified with small area social indicator methods. The revised system will have expanded service and technical assistance programs with appropriate manuals. Because of its focus on small areas, the 1980 MHDPS is derived from what are referred to as Standard Tape Files 2 and 4. As a result, the items included must be derivable from the marginal totals on those tapes. Unique crossclassifications, such as those which can be derived from the 1-in-1000 tape, are not possible because the geographic detail would preclude confidentiality in such procedures. In 1970 two standard tables (table 5 and table 6) were provided from the system (see exhibit 9). Table 5, with 23 items, provided a quick overview of key small area social indicators (social rank and its components, economic status, social status, educational status, ethnicity, family status, family life cycle, type of housing, housing conditions, and mobility). Table 6, with 102 items, provided indepth information about an area or population. Age-sex profiles were also part of the standard package available to users. Several nonstandard tables such as a Spanish heritage table of 31 items and a race table of 15 items were also available (Rosen et al. 1975).

The 1970 MHDPS was used extensively by both researchers and administrators. We expect the system to continue to be used by both groups. However, the data needs of scientists and administrators are different. The scientists, concerned with social ecology and epidemiology, need a large, complex, and flexible data base, whereas administrators need only the minimum number of social indicators necessary to do need assessment. In 1970 we did not take into consideration the differential needs of users. When requests for data were received, users were generally sent all of the standard tables. Often this was more than many users could effectively handle. Consequently, the 1980 system will contain standard and nonstandard tables. The standard tables are for administrators and others who use small area social indicators to do social area analysis and to locate populations or areas

with special needs or high risks of mental disability. The nonstandard tables are for persons concerned with the epidemiological and socioecological structure of local residential environments or mental health statisticians concerned with estimating the volume of service needs in an area.

Two standard cross-sectional tables (exhibit 10) with approximately 20 social indicators each, will replace the 131 indicators routinely available in the 1970 tables 5 and 6. The new table 1 will provide a social and economic overview of an area; it will contain the information necessary for doing a social area analysis. The new table 2 will provide information for identifying populations and areas with special needs or high prevalence levels of mental disability. In areas where race and ethnic population (shown in exhibit 11) contain 200 or more persons, tables 1 and 2 will be available for these groups.

In addition to the standard cross-sectional tables, the age-sex profile will be a part of the standard system as will a standard longitudinal table. To the extent possible, the latter table will be based upon the 1970 boundaries of census units such as census tracts. (See Shambaugh et al. 1979 for a discussion of problems associated with boundaries.) It will include small area social indicators from standard cross-sectional tables that exist for both 1970 and 1980. For counties the age-sex profile by urban and rural populations will continue to be available. In addition, a figure presenting the 1970 and 1980 age-sex data and 1970-1980 percent change by age for 1970 area boundaries will be available.

Detailed information about an area similar to that presented in the 1970 table 6 will be available as a nonstandard product. This table will also provide information about the heterogeneity of a population or area and provide information about atypical residents of local residential environments. In addition to measures of the average background character of an area (e.g., economic class indexed by median family income), there will be measures of dispersion around the average background characteristics or central tendency of an area or population (quartile values and the interquartile range). Moreover, for specific data re-

quirements, the user will have the option of designing a special user-oriented table containing only the information considered relevant.

Epidemiological problems, such as estimating the absolute and relative size of the mentally disabled population of small areas, will be solved by providing special nonstandard tables, (i.e., special age-sex by race and marital status as well as age-sex by single years of age up to age 25). In 1970, a special race table (Chinese, Japanese, Native Americans, and others) was provided. This information will again be available as a nonstandard table.

## **Limitations of Census Data**

As useful as small area social indicators derived from census data are, they cannot solve all need assessment problems and the indicators can be properly used only when both their value and limitations are clearly understood. Some of the important limitations in using small area social indicators from the decennial census are presented below.

## **Natural Residential Environments**

It must be clearly recognized that local residential environments, as indexed by census tracts within metropolitan areas, and MCDs (or CCDs) outside metropolitan areas, do not necessarily identify natural residential neighborhoods. With respect to census tracts, the Census Bureau requests that the local "census tract committees" within metropolitan areas design their tracts so that they are homogeneous with respect to social characteristics and have populations of approximately 4,000 persons; unfortunately, this is not always the case. The census tract is best viewed as an arbitrary geographical unit with an average population of about 4,000 (see exhibit 4). It is assumed that such areas have specifiable (when discovered) probabilities of behavior because of the socioeconomic characteristics of their resident populations. Area or population homogeneity need not be assumed because the degree and type of homogeneity is measurable. The view of census tracts as arbitrary and small also applies to MCDs (or CCDs). They are towns, townships, or other arbitrary subdivisions of counties. Generally, each county contains at least four such geographical units.

Sets of local residential areas (contiguous census tracts, or minor civil divisions) can be combined into larger area units such as community mental health center areas, health service areas, cities, counties, or States. These larger areas, market and service regions, can be expected to influence the kinds and amounts of mental disability within local residential environments as well as the accessibility and availability of services to the small areas. For example, Fischer (1976), modifying an earlier position of Wirth, speculated that as the

size of a city increased, unconventionality (deviancy) increased. As a result, the probability of exposure to unconventionality increases stress; thus, stress-related disabilities should increase as the size of the city increases. Minimally, this means that small residential areas with similar internal structures, but different external structures (such as urbanization levels or industrial and commercial bases) should have different levels of mental disability. Equally, municipal decisions concerning the location of schools, housing projects, commercial structures, etc., can be expected to create stress within affected local residential environments. and accordingly may modify mental disability levels for the affected areas. Significantly, such conditions cannot be directly attributed to, or as yet accounted for, by the characteristics of local residential environments (Clark 1968; National Academy of Sciences, 1974). The examples provided suggest that it is reasonable to assume that size, density, industrial structure, and related central place activities may create or condition mental or emotional stress in local residential areas. Hunter (1979) considers the macrocommunity context of a local residential environment to be so important that he cautions "... to try to understand the neighborhood [local residential environment] solely by focusing on its internal structure and dynamics is to end up with carefully documented descriptions, but a persistent failure to grasp the causal explanations of the processes that create the variety of neighborhood forms and constrain the conduct of neighborhood life."

Clearly, macroenvironments condition the effects of local residential environments and have independent effects upon their residents. Unfortunately, the potentially important macroenvironment effects have not, as yet, been sufficiently investigated to make controlling them useful when estimating mental disability or planning mental health services.

## Place of Work Data

To the extent that need for, or utilization and provision of health and mental health services is contin-

gent upon the characteristics of people that shop or work in an area, census data based upon these characteristics of residential populations are incomplete. The use of data for residential populations requires the implicit assumption that persons living in an area will meet their service needs in that area. Some persons, however, seek treatment elsewhere. The reason for this may be a desire for anonymity, lack of services, perceived differences in the quality or acceptability of services, avoidance of the stigma of mental illness, or an orientation away from the place of residence. Whatever the reason, the extent to which people living in one area receive services in another will affect the usefulness of area need assessments derived from residential data. Information about populations that use other areas for services, work, or recreation, rather than their resident areas would, of course, increase the value of the data significantly. The 1980 Census, unlike the 1970, will provide information about the characteristics of the employed population working in a given area. This is an important innovation of the census and will result in significant improvements in decennial census data. When available, these data will provide important clues to the nonresidential land uses of local residential environments-the factories and markets that share space with the residential populations of local residential environments. In addition, the information should be useful in estimating the characteristics of all the people (residents, persons employed in the area, shoppers, and other transients) who may use an area during the day. With such information one may be able to estimate the daytime and the nighttime populations that are accessible to exist-

ing service components. It is quite unlikely that these data will be available before 1983 since this is one of the last types of information that will be provided from the 1980 Decennial Census.

## Validity and Reliability of Census Data and Indicators of Need and Demand for Mental Health Services

Users of decennial census data must be aware that, as yet, valid and reliable information does not exist as to the precise meanings to be attached to small area social indicators, particularly if a number of conditioning variables (such as region, age, sex, and city size) were controlled. Decisions to include indicators continue to be made on the basis of the 'best,' although incomplete, available information.

## Useful Indicators Not Available From the Decennial Census

Not all small area social indicators that are useful for assessing mental health or health related behavior are available for small areas from the decennial census. For example, indicators such as religion, commercial or industrial blight, or degree of housing dilapidation are not provided, nor is direct information available on factors such as pollution, climate conditions, transportation routes, or topographical characteristics of small areas. The above conditions can be expected to affect mental health behavior, directly or indirectly.

## Conclusion

This report has emphasized that small area social indicators derived from decennial census data provide useful clues for determining the relative needs of residential populations and areas for health and mental health services, as well as helpful information for designing service systems to meet the needs of specific types of residential populations. In addition to the uses cited here for need assessment, these indicators can be used to meet legal requirements for funding (e.g., certificate of need statements); to prepare and defend program proposals; to provide baseline data for evaluating program success, including denominator data for the computation of utilization rates; and to explore the demographic characteristics of alternative geographic definitions of administrative and service areas.

The MHDPS provides an inexpensive way to obtain relevant data. It meets the needs of a wide range of users who have different levels of sophistication. This includes: local planners who have little experience accessing census data and whose primary interest is to obtain relevant indicators for a single catchment area, administrators who are faced with allocating funds among a group of units with different service requirements, and experienced researchers who manipulate the system as a cost efficient way of accessing census data for small areas to study historical trends. MHDPS has evolved into a general purpose data base information system containing census data for all tracts, minor civil divisions (or census county divisions), counties, States, and special areas in the Nation that can be used for both applied and basic research in social ecology and social epidemiology. The system allows for the identification of residential areas by their social rank, life style, ethnicity, and other characteristics, thus permitting inferences about the mental health and related needs of the populations of small areas. As the MHDPS data base and software capacities increase in the coming decade, the use of small area social indicators for need assessment can become even more effective.

## References

- Abbott, E., The Tenements of Chicago. Chicago: University of Chicago Press, 1936.
- Burgess, E.W., ed. *The Urban Community*. Chicago: University of Chicago Press, 1926.
- Clark, T.N. Community Structure and Decision-making: Comparative Analyses. San Francisco: Chandler Publishing Co., 1968.
- Fischer, C.S. The Urban Experience. New York: Harcourt, Brace, Jovanovich, Inc., 1976.
- Gans, H.J. People and Plans: Essays on Urban Problems and Solutions. New York: Basic Books, 1968.
- Goldsmith, H.F. "Small Area Social Indicators From the 1980 Decennial Census." Presented at the 1980 Annual Conference. The New England Children's Mental Health Task Force. Durham, NH, April 18-19, 1980.
- Goldsmith; H.F.; Jackson, D.J.; Rosen, B.M.; and Babigian, H. Utilization of Mental Health Services in a Middle-Size Metropolitan Area: A Typological Approach to Understanding the Relationships Between Social Rank and the Utilization of Mental Health Services. Paper presented at the Second National Conference on Needs Assessment in Health and Human Services, Louisville, KY, March, 1978.
- Goldsmith, H.F.; Jackson, D.J.; Shambaugh, J.P.; and Dupuy, H.J. "Community Dissatisfaction and Depressed Mood in Suburbia." Presented at the 1979 Annual Meeting of the American Sociological Society. August, 1979.
- Goldsmith, H.F.; Rosen, B.M.; Shambaugh, J.P.; Stockwell, E.G.; and Windle, C.D. National Institute of Mental Health, MHDPS Working Paper No. 24, "Demographic Norms for Metropolitan, Nonmetropolitan, and Rural Counties." Adelphi, MD: Mental Health Study Center, July 1975.

- Goldsmith, H.F., and Unger, E.L. "Differentiation of Urban Subareas: A Re-Examination of Social Area Dimensions." Laboratory Paper No. 35, Adelphi, MD: Mental Health Study Center, NIMH, November 1970, 49 pp.
- Goldsmith, H.F.; Unger, E.L.; Rosen, B.M.; Shambaugh, J.P.; and Windle, C.D. National Institute of Mental Health, Series C, No. 10, A Typological Approach to Doing Social Area Analysis. DHEW Pub. No. (ADM)77-262. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off, 1975.
- Greer, S.A. The Emerging City: Myth and Reality. New York: Free Press of Glencoe, 1962.
- Hunter, A. "The Urban Neighborhood: The Analytical and Social Contexts." *Urban Affairs Quarterly* 14(3): 267-288, Mar. 1979.
- Jackson, D.J.; Borgatta, E.F.; and Goldsmith, H.F., "Data Analysis in Factor Ecology." Sociological Methods and Research 7(3):356-368, Feb. 1979.
- Klee, G.D.; Spiro, E.; Bahn, A.K.; and Gorwitz, K. An Ecological Analysis of Diagnosed Mental Illness in Baltimore. In: Monroe, R.R.; Brody, E.B.; and Klee, G.D. *Psychiatric Epidemiology and Mental Health Planning*, Research Report No. 22, Washington, DC: American Psychiatric Association, 1967.
- Levy, L., and Rowitz, L. The Ecology of Mental Disorder. New York: Behavioral Publications, 1973.
- National Academy of Sciences, Toward an Understanding of Metropolitan America, Report of the Social Science Panel. San Francisco: Canfield Press, 1974.
- Redick, R.W.; Goldsmith, H.F.; and Unger, E. National Institute of Mental Health, Series C., No. 3, 1970 Census Data Used to Indicate Areas With Dif-

- ferent Potentials for Mental Health and Related Problems. DHEW Pub. No. (HSM)73-9058. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1971.
- Rosen, B.M.; Lawrence, L.; Goldsmith, H.F.; Shambaugh, J.P.; and Windle, C.D. National Institute of Mental Health Series, C, No. 11, Mental Health Demographic Profile System Description: Purpose, Contents, and Sampler of Uses. DHEW Pub. No. (ADM)76-263. Washington, DC: Supt. of Docs., U.S. Govt., Print. Off., 1975.
- Rosen, B.M.; Goldsmith, H.F.; and Redick, R.W. Demographic and Social Indicators from the U.S. Census of Population and Housing: Uses for Mental Health Planning in Small Areas. World Health Statistics Quarterly 32(1), 1979.
- Shambaugh, J.P.; Goldsmith, H.F.; Jackson, D.J.; and Rosen, B.M. The Mental Health Demographic Profile System: A Longitudinal Information System. Social Indicators Research 6 1979. pp. 215-237.

- U.S. Bureau of the Census, Department of Commerce. U.S. Census of Population: 1970, Number of Inhabitants, Final Report PC(1)-A24, Michigan. Washington, DC: the Bureau, July 1971, pp. VII-VIII.
- U.S. Bureau of the Census, Department of Commerce. The 1970 Census and You. Washington, DC: the Bureau, September 1977 (Rev.). 16 pp.
- U.S. Bureau of the Census, Department of Commerce. Summary Description of Data Use for Questions Planned for Inclusion in the 1980 Census. Washington, DC: the Bureau, February 1979, 64 pp.
- Walker, F.A. Report of the Superintendent of the Ninth Census. Ninth Census, *The Statistics of the Population of the United States*. Vol. 1, Washington, DC: U.S. Govt. Print. Off., 1872.
- Wilson, R.A. Anomie in the Ghetto: A Study of the Neighborhood Type, Race, and Anomie. *American Journal of Sociology* 77(1):66-68, 1971.

## 100 Percent

- 1. Name
- 2. Household relationship
- 3. Sex
- 4. Race
- 5. Age
- 6. Marital status
- 7. Spanish/Hispanic origin or descent
- 8. Coverage questions

## Sample

- 1. School enrollment
- 2. Educational attainment
- 3. Place of birth
- 4. Citizenship and year of immigration
- 5. Current language
- 6. Ancestry
- 7. Place of residence 5 years ago and major activity 5 years ago
- 8. Age screener
- 9. Veteran status
- 10. Presence of disability or handicap limiting work or use of public transportation
- 11. Children ever born
- 12. Date of first marriage and whether terminated by death
- 13. Employment and unemployment
- 14. Place of work and journey to work
- 15. Industry, occupation, and class of worker
- 16. Work and weeks looking for work in 1979
- 17. Sources of income and total income in 1979

## 100 Percent

- 1. Number of living quarters at address
- 2. Access to unit
- 3. Complete plumbing facilities
- 4. Number of rooms
- 5. Tenure and whether part of a condominium
- 6. Acreage and presence of commercial establishment and value
- 7. Monthly rent
- 8. Vacancy status

## Sample

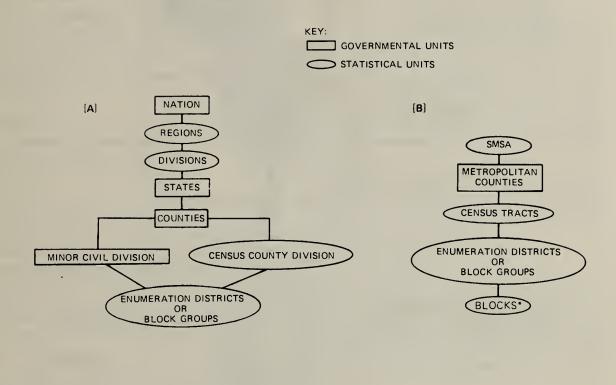
- 1. Type of building and number of units in building
- 2. Stories in building and presence of an elevator
- 3. Farm residence
- 4. Source of water and sewage disposal
- 5. Year built
- 6. Year present occupant moved into this house
- 7. Heating equipment
- 8. Fuels
- 9. Costs of fuels and utilities
- 10. Complete kitchen facilities
- 11. Number of bedrooms
- 12. Number of bathrooms
- 13. Telephone
- 14. Airconditioning
- 15. Automobiles, vans, and light trucks
- 16. Shelter costs for homeowners

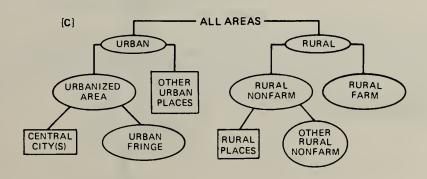
<sup>\*</sup>This exhibit was adapted from the U.S. Bureau of the Census, Department of Commerce. Summary Description of Data Use for Questions Planned for Inclusion in the 1980 Census. Washington, D.C.: the Bureau, February 1979.

## Exhibit 2\*

## Census Bureau Geographic Units— Their Hierarchical Relationships

These figures illustrate hierarchical or "nesting" relationships among census geographic areas. Note that the hierarchies overlap, e.g., counties are subdivided into MCD's or CCD's (figure A), into urban and rural components (figure C), and, inside SMSA's, into census tracts (figure B). Note also the relationships among governmental and statistical units as data summary areas.



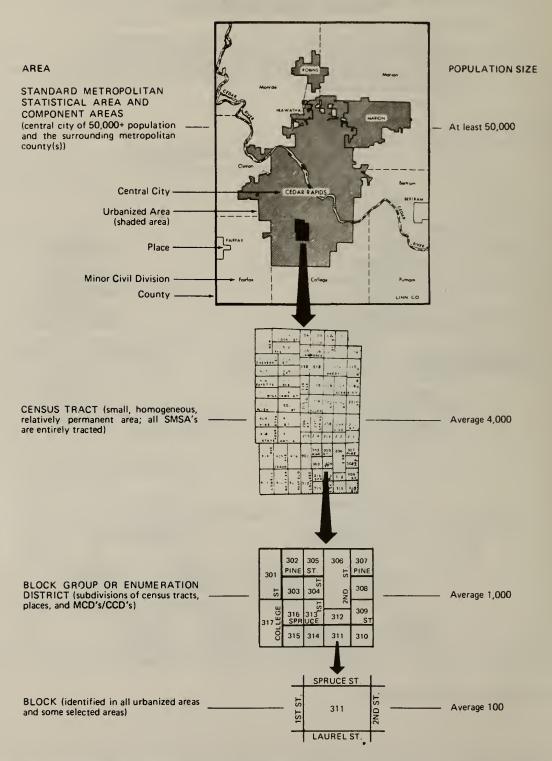


<sup>\*</sup>Blocks do not cover the entire SMSA, only the urbanized part.

Source: U.S. Bureau of the Census, Department of Commerce. The 1970 Census and You. Washington, D.C.: the Bureau, September 1977 (Rev.), p. 7.

Exhibit 3\*

## Geographic Subdivisions of an SMSA



Source: U.S. Bureau of the Census, Department of Commerce. The 1970 Census and You. Washington, D.C.; the Bureau, September 1977 (Rev.), p. 8.

## Exhibit 4\*

## Selected definitions of census geographic divisions

## Standard Metropolitan Statistical Area

Except in the New England States, a standard metropolitan statistical area (SMSA) is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000 [these cities are referred to as central cities]. In addition to the county, or counties, containing such a city or cities, contiguous counties are included in an SMSA if, according to certain criteria, they are socially and economically integrated with the central city. In the New England States, SMSA's consist of towns and cities instead of counties.

## Urbanized Area

An urbanized area consists of a central city, or cities, and surrounding closely settled territory.

## Urban Area

An urban area consists of persons living in (a) places of 2,500 inhabitants or more, incorporated as cities, villages, boroughs (except Alaska), and towns (except in the New England States, New York, and Wisconsin), but excluding those persons living in the rural portions of extended cities; (b) unincorporated places of 2,500 inhabitants or more; and (c) other territory, incorporated or unincorporated, included in urbanized areas. Rural areas are all areas not designated as urban.

## Minor Civil Divisions

Minor civil divisions (MCD's) represent the primary political or administrative subdivisions established by State Law. Where more than one type of primary division exists in a county, the Census Bureau uses the more stable type so as to provide comparable statistics from decade to decade, insofar as possible. The most common type of MCD is the civil township, but there are also towns, magisterial districts, precincts, etc.

## Census County Divisions

Census county divisions (CCD's) represent community areas which have been defined in recent decades by the Census Bureau with the cooperation of the Governors, and State and local officials. In these States, the CCD's have replaced a variety of MCD's which were unsatisfactory for statistical purposes principally because their boundaries frequently changed, were imaginary lines, or were not well known by many of the inhabitants.

## Census Tracts

Census tracts are subdivisions of SMSA's averaging 4,000 population, covering all SMSA's for 1970. Tracts are defined by local committees and are frequently used to approximate neighborhoods.

## **Enumeration Districts**

Enumeration districts (ED's) are administrative divisions set up by the Census Bureau to take the census in areas where enumerators were used, averaging 800 population. Outside of urbanized areas, this is the smallest geographic unit of analysis, and all other areas (tracts, places, MCD's, etc.) can be defined as a collection of ED's.

## Block Groups

Groups of city blocks (BG's), averaging 1,000 population, take the place of enumeration districts in 145 large urbanized areas where the census was taken by mail in 1970.

<sup>\*</sup>Information quoted from the U.S. Bureau of the Census, Department of Commerce. U.S. Census of Population: 1970, Number of Inhabitants, Final Report PC(1)-A24, Michigan, pp. VII-VIII, July 1971; and The 1970 Census and You. Washington, D.C.: the Bureau, September 1977 (Rev.), p. 2.

Table 1. Percentage distribution of psychiatric episode rates by economic status, social status, educational status of the common areas of Monroe County, New York, 1970: White population

Panel	7 - 1	F	Sychiatri	Rates (P	er 1,000	Populatio	n of Con	nmon Area	25)
ranei	Level							35	
		5-9	10-14	15-19	20-24	25-29	30-34	or More	Total
A 3: 3	High	25.4	64.4	10.2	0.0	0.0	0.0	0.0	100.0(59)
Adjusted Economic Status	Medium	0.0	32.0	40.0	24.0	0.0	0.0	4.0	100.0(25)
Economic Status	Low	3.6	5.4	8.9	19.6	19.6	10.7	32.1	100.0(56)
	High	18.8	64.6	4.2	8.3	0.0	2.1	2.1	100.0(48)
Social Status	Medium	23.1	46.2	19.2	3.8	0.0	3.8	3.8	100.0(26)
	Low	3.0	9.1	21.2	18.2	16.7	6.1	25.8	100.0(66)
	High	22.9	66.7	4.2	2.1	0.0	2.1	2.1	100.0(48)
Educational Status	Medium	18.5	40.7	25.9	11.1	0.0	3.7	0.0	100.0(27)
	Low	1.5	9.2	18.5	20.0	16.9	6.2	27.7	100.0(65)

<sup>\*</sup>This exhibit was adapted from the paper, "Utilization of Mental Health Services in a Middle-Size Metropolitan Area: A Typological Approach to Understanding the Relationships Between Social Rank and Utilization of Mental Health Services," by Goldsmith, H.F.; Jackson, D.J.; Rosen, B.M.; and Babigian, H. The paper was presented at the Second National Conference on Needs Assessment in Health and Human Services, Louisville, KY, March 1978.

Exhibit 6\*

An illustrative list of small area social indicators from the 1970 Mental Health Demographic Profile System (MHDPS) that can be used to locate areas with concentrations of children with high probabilities of health and mental health problems

Table

Table Number	Item Number	Statistical Description
5	17	Youth dependency ratio: Persons under 18 per 100 persons 18-64 in household population
6	6	Families in poverty, white: Percent of white families below poverty level
6	7	Families in poverty, Negro: Percent of Negro families below poverty level
6	56	Youth dependency ratio, white: White persons under 18 per 100 white persons 18-64 in household population
6	57	Youth dependency ratio, Negro: Negro persons under 18 per 100 Negro persons 18-64 in household population
6	60	Families with children: Percent of families with own children under 18
6	61	Childbearing only families: Percent of families with own children under 6, no children 6-17
6	62	Childbearing and childrearing families: Percent of families with own children both under 6 and 6-17
6	63	Childrearing only families: Percent of families with own children 6-17, no children under 6
6	77	Female headed households with own children: Percent of households with own children under 18 that are headed by females
6	95	Teenagers not in school: Percent of population 14-17 not enrolled in school
6	96	Teenagers not in school, Negro: Percent of Negro population 14-17 not enrolled in school
6	97	Working mothers of children under 18: Percent of women 16 and over with children of their own under 18 who are in the labor force
6	98	Working mothers of preschool children: Percent of women 16 and over with children of their own under 16 who are in the labor force
6	103	Female headed households with own children, Negro: Percent of Negro households with own children that are headed by females
6	105	Female headed families with children in poverty: Percent of families with at least one related child under 18 that are female headed and below poverty level
6	108	Children in poverty: Percent of related children under 18 below poverty level
-		The Province of the Control of the C

<sup>\*</sup>This exhibit was adapted from National Institute of Mental Health, Series C, No. 10, A Typological Approach to Doing Social Area Analysis, by Goldsmith, H.F.; Unger, E.L.; Rosen, B.M.; Shambaugh, J.P.; and Windle, C.D. DHEW Pub. No. (ADM)77-262. Washington, D.C.: Supt. of Docs., U.S. Govt. Print. Off., 1975.

## Small area social indicators of selected low income apartment house areas: White population 1970

			Туре	of Area	
	Small Area Social Indicator	Family (most like peasa Indic	ely urban ants)	Nonfam (most likely h and socially India	demoralized)
		Level	Value	Level	Value
	Economic Status				
1.	Income of families, white: Median income of white families	Low	Less than \$9,303	Low	Less than \$9,303
2.	Income of unrelated individuals, white: Median income of white unrelated individuals	Low	Less than \$2,014	Low	Less than \$2,014
	Social Status				
3.	Low occupational status, white males: Percent of employed white males 16 and over who are operatives, service workers, and laborers includ- ing farm laborers	Low	37.5% or more	Low	37.5% or more
	Ethnicity				
4.	Black: Percent of household population black	Low	Less than 5%	Variable (most likely medium to high)	30% or more
5.	Foreign stock: Percent of population who are for- eign born or native born of foreign or mixed parentage	Moderate to high	30% or more	Low	Less than 5%
	Family Status				
6.	Nonfamily households: Percent of low households with heads who are primary individuals	Some	Less than 30%	High	70% or more
7.	Husband-wife households, white: Percent of white households with husband-wife families	Predominate to high	50% or more	Some	Less than 30%
	Family Life Cycle				
8.	Families with children: Percent of families with own children under 18	Moderate to high	54.5% or more	Low	54.4% or less
9.	Childbearing only families: Percent of families with own children under 6, no children 6-17	Moderate to high	12.4% or	Low	12.3% or less
10	Childbearing and childrearing families: Percent of	Moderate	more 12.9% or	Low	12.8% or
10.	families with own children both under 6 and 6-17	to high	more	20	less
11.	Childrearing only families: Percent of families with own children 6-17, no children under 6	Moderate	28.3% or more	Low	28.2% or less
12.	Condition of Housing Overcrowded housing, white: Percent of occupied white housing units with 1.01 or more persons per room	Moderate to high	6.3% or more	Variable	
13.	Community Instability  Recent movers, white: Percent of white population who moved into present residence 1969-1970	Low	Less than 19.7%	High	27.8% or more

<sup>\*</sup>This exhibit was adapted from MHDPS Working Paper No. 24, "Demographic Norms for Metropolitan, Nonmetropolitan, and Rural Counties," by Goldsmith, H.F.; Rosen, B.M.; Shambaugh, J.P.; Stockwell, E.G.; and Windle, C.D. Adelphi, MD; NIMH, Mental Health—Study Center, July 1975.

Exhibit 8

Example of use of denominator data with utilization data

Estimate of Unmet Needs, Takoma Park - Silver Spring Catchment Area, Montgomery County, Maryland

## **Estimated Needs Assuming:**

	1970 Population		B. U.S. Admission			Unmet Needs
Age Group	U.S. Census	Population	Rates*	Admissions**	Assumption A	Assumption B
Column Number	(1)	(2)	(3)	(4)	(5)	(6)
		$col(1) \times .02$			col(2) - (4)	col(3) - (4)
					${\operatorname{col}(2)} \times 100$	${\operatorname{col}(3)} \times 100$
All ages	119,514	2,390	1,554	1,009	57.7	35.1
Under 25 years.	50,550	1,011	519	319	68.4	38.5
25-44 years	30,920	618	613	381	38.3	37.8
45-64 years	27,241	545	355	268	50.8	25.1
65 years +	10,443	209	64	41	80.4	35.9

Source: Adapted from National Institute of Mental Health, Series C. No. 11, Mental Health Demographic Profile System Description: Purpose, Contents, and Sampler of Uses, by Rosen, B.M.; Lawrence, L.; Goldsmith, H.F.; Shambaugh, J.P.; and Windle, C.D. DHEW Pub. No. (ADM)76-263, 1975, p.34.

<sup>\* 1971</sup> data

<sup>\*\*1969</sup> data

Exhibit 9

# The 1970 Mental Health Demographic Profile

TABLE 5 AGGREGATED 760712

STATISTIC DESCRIPTION STA	STATISTIC	DENOMINATOR	C0M	COMPARISONS TO FOR OTHER A	STATISTICS	CATCHMENTS IN	TO OTHER
			COUNTY	STATE	U.S.	RANK	MEDIAN
GENERAL POPULATION DATA 5-01 TOTAL POPULATION 5-02 NUMBER OF NALES IN HOUSEHOLDS 5-03 NUMBER OF FEMALES IN HOUSEHOLDS 5-04 POPULATION IN GROUP QUARTERS (IN GQ) 5-05 POPULATION IN GROUP	199894 93433 103346 3115 115006 83855	::::::	905759 417326 470153 18280 479837	3922399 1851019 1966563 106817 3194888 699479	203211905 9545663 177748975 5812013 177748975 22580289	9889 988 888 07	120477 57179 61428 2797 106320 8605
INCOME 5-07 MEDIAN INCOME: FAMILIES & UNRELATED INDIV 5-08 % FAMILIES IN POVERTY	\$ 6777	66043	\$ 6796 14.0	\$ 9130	\$ 7699 IO.7	17 87	\$ 94I5
SOCIAL STATUS 5-09 LOW OCCUPATIONAL STATUS: MALES (%) 5-10 HIGH OCCUPATIONAL STATUS: MALES (%)	49.4	43890 43890	44.8 I9.0	30.3 31.4	36.0	90	32.
EDUCATIONAL STATUS 5-II MEDIAN SCHOOL YEARS COMPL, 25+ YEARS OLD	9.2	103247	10.0	12.1	12.1	7	12.
ETHNIC COMPOSITION 5-12 % HOUSEHOLD POPULATION NEGRO 5-13 % HH POPULATION NON-WHITE & NON-NEGRO 5-14 % POPULATION FOREIGN STOCK	42.3 0.5 7.4	196779 196779 199849	46.6 0.6 11.1	17.7 0.7 II.6	11.3 1.4 16.5	83 33 33	7. -1. II.
GENERAL HOUSEHOLD CHARACTERISTICS 5-15 % HOUSEHOLDS HUSBAND-WIFE FAMILIES	56.7	60273	54.7	70.9	4.69	10	74.
FAMILY LIFE CYCLE 5-16 MEDIAN AGE OF HOUSEHOLD HEADS 5-17 YOUTH DEPENDENCY RATIO 5-18 AGED DEPENDENCY RATIO	47.8 69.1 15.7	60273 106494 106494	49.2 60.9 18.4	45.7 63.4 13.1	48.2 63.4 17.4	60 80 57	47. 62. 14.
HOWSING CONDITIONS 5-22 % DWELLING UNITS W/ STANDARD FACILITIES 5-19 % DWELLING UNITS SINGLE DETACHED 5-20 % DWELLING UNITS IN HIGH RISE APTS	97.2 8.1 2.0	60273 63209 62982	97.1 12.1 3.6	95.4 51.1 2.8	93.4 66.2 1.9	47 10 63	97. 59.
DENSITY OF HOUSING 5-21 % HH POP IN OVERCROWDED HOUSING UNITS	23.1	677961	19.2	13.6	16.9	87	13.
CONMUNITY INSTABILITY 5-23 % POPULATION RECENT MOVERS	20.7	199849	21.3	22.6	23.5	4.0	21.

# Exhibit 9 (continued)

# The 1970 Mental Health Demographic Profile

INNER CITY CMHC, MD. "SGREGATED 760712
MENTAL HEALTH DEMOGRAPHIC PROFILE SYSTEM: SELECTED INDICATORS FROM THE 1970 CENSUS, 100% AND SAMPLE TABULATIONS
DEVELOPED JOINTLY BY THE DIVISIONS OF BIOMETRY AND MENTAL HEALTH SERVICE PROGRAMS, N I M H TABLE

TE E

COMPARISONS TO STATIS	COUNTY STATE	14 \$ 9891 \$11635 66 \$ 7289 \$ 7701 10 \$ 2992 \$ 3099 14 \$ 3367 \$ 3349 15 \$ 2456 \$ 2325 16 \$ 23.2 18.4 \$ 10.1 10.8 \$ 10.1 27.1 \$ 27.5 3 \$ 18.4 \$ 10.1 10.8 \$ 10.1 27.1 \$ 27.5	9 \$10284 \$19637 10 \$ 9390 \$11107 11 \$ 94 \$ 121 8 \$ 84 \$ 85	5.5 4.6 3.2 7.7 9.4 6.3 8.7 6.2 5.6 10.4 10.4 10.4 6.6 41.3 642.6 6.7 6.6 444.4 6.8 51.3 53.1	77 32.0 25.0 88 64.0 611.4 10.0 11.4 10.0	10.4 12.2 9.6 9.9 77 41.7 27.4 10 40.2 24.7 55 44.2 44.2
; DENOMINATOR	, , , , , , ,	2940 1754 1885 1885 1056 11354 11354 8274 4719	1804 557 1612 1436	7804 2995 3661 2393 1248 71248 71248 2750	2866 15866 15866 17088 17284 12246	6656 3615 10324 6656 3615
STATISTIC		\$ 88 8867 893108 \$ 108867 \$ 108867 \$ 108867 \$ 108867 \$ 108867 \$ 10887	\$ 8080 \$ 9173 R0 \$ 86 75	ED 4.9 ED: WH 5.8 ED: NE 6.5 ED: WHI 8.7 ED: NEG 44.6 WHITE 41.0	(%) 140.2 (%) 150.9 (%) 6.7.9 (%) 844.5 (%) 53.4 (%) 53.4	9.2 (%) 47.9 %) 48.6 (%) 48.6 (%)
STATISTIC DESCRIPTION		E MEDIAN INCOME: WHITE FAMILIES  MEDIAN INCOME: NEGRO FATILIES  MEDIAN INCOME: UNRELATED INDIVIDUALS  MEDIAN INCOME: WHITE UNRELATED INDIV.  MEDIAN INCOME: WEGRO UNRELATED INDIV.  MEDIAN INCOME: WEGRO UNRELATED INDIV.  MEDIAN INCOME: WORRY: WHITE  MEDIAN INCOMERY: NEGRO  MEDIALIES IN POVERTY: WHITE  MEDIALICATION IN POVERTY  MEDIALION IN POVERTY, NEGRO  MEDIALION IN POVERTY, NEGRO  MEDIALION IN POVERTY, NEGRO  MEDIALION IN POVERTY, NEGRO  MEDIALICATION IN POVERTY, NEGRO	OF HOUSING  2 MEDIAN HOUSE VALUE: NON-NEGRO  3 MEDIAN HOUSE VALUE: NEGRO  4 MEDIAN MONTHLY CONTRACT RENT: NON-NEGRO  5 MEDIAN MONTHLY CONTRACT RENT: NEGRO	ALABOR FORCE  CIVILIAN LABOR FORCE 16+ UNEMPLOY CIVILIAN LABOR FORCE 25-64 UNDEREMPLOY CEMPLOYED MALES 25-64 UNDEREMPLOY CEMPLOYED MALES 25-64 UNDEREMPLOY CEMPLES 16 & OVER IN LABOR FORCE CHALES 16 & OVER IN LABOR FORCE CHALES 16 & OVER IN LABOR FORCE CHALES 16 & OVER IN LABOR FORCE	STATUS LOW OCCUPATIONAL STATUS: WHITE MALES LOW OCCUPATIONAL STATUS: WHERE MALES LOW OCCUPATIONAL STATUS: NEGRO MALES HIGH OCCUPATIONAL STATUS: NEGRO MALES LOW OCCUPATIONAL STATUS: FEMALES LOW OCCUPATIONAL STATUS: WHITE FEMALES LOW OCCUPATIONAL STATUS: WHITE FEMALES MID OCCUPATIONAL STATUS: WHITE FEMALES MID OCCUPATIONAL STATUS: NEGRO FEMALES MID OCCUPATIONAL STATUS: NEGRO FEMALES	MEDIAN SCHOOL YEARS , AGE 25+: WHITE MEDIAN SCHOOL YEARS , AGE 25+: NEGRO LOW EDUCATIONAL STATUS, PERSONS 25+ (LOW EDUCATIONAL STATUS, WHITES 25+ (LOW EDUCATIONAL STATUS, NEGROES 25+
		00000000000000000000000000000000000000	VALUE (6-12 6-13 6-15 6-15	6-16 6-17 6-17 6-19 6-19 6-20 6-21 6-22 6-23	SOCIAL 6-25 6-26 6-27 6-28 6-28 6-39 6-31 6-32	EDUCAT. 6-34 6-35 6-35 6-36 6-38

# Exhibit 9 (continued)

# The 1970 Mental Health Demographic Profile

55. -1. -1. . 1

INNER CITY CMHC, MD.
SELECTED INDICATORS FROM THE 1970 CENSUS, 100% AND SAMPLE TABULATIONS AND MENTAL HEALTH SERVICE PROGRAMS, N I M H 1010 40 83 83 83 10 10 10 8883703 90 90 70 87 90 AREAS U.S. 56.9 35.9 68.3 53.3 2.7 17.6 10.4 82.6 93.6 715.7 52.6 448.5 645.7 850.8 117.9 113.4 34.7 6.6 36.59 7.3 7.3 11.8 11.6 8.9 4.3 6.2 12.3 21.0 COMPARISONS WITH OTHER COUNTY STATE 58.2 36.3 68.8 13.9 5.3 2.9 114.9 111.3 81.0 94.1 73.8 54.9 466.2 859.3 113.4 113.4 30.7 37.9 37.9 8.6 1.7 17.3 2.0 9.1 5.0 7.0 11.0 11.2 41.5 32.6 59.8 7.2 20 4122.3 622.3 622.3 410.8 49.3 552.5 446.2 466.2 246.8 110.7 111.5 113.1 39.1 2.0 1.9 1.2 25.8 3.2 13.7 9.3 12.1 15.4 31.8 24.7 90. DENOTITNATOR 79458 45706 12898 9551 199849 60273 60273 60273 73571 103346 41318 38509 21435 38509 21435 64635 41267 64635 41267 47008 47008 47008 34196 199894 3115 2886 199895 60273 47484 55774 65361 76169 76169 60273 26070 STATISTIC 2.8 148.9 62.0 62.0 990.0 60.3 31.1 30.2 50.8 49.6 550.3 191.9 19.6 19.6 19.6 19.6 19.6 19.6 35.7 35.7 30.7 30.7 1.1 0.9 22.0 2.8 2.8 12.9 9.3 9.0 12.7 14.6 330.8 25.7 NS NOT IN FAMILIES

5 % POPULATION IN GROUP QUARTERS

6 % GROUP QUARTERS POP

7 % GROUP QUARTERS POP INSTITUTIONAL GQ

8 % GQ POPULATION IN NON-INSTITUTIONAL GQ

9 % HOUSEHOLD HEADS PRINARY INDIVIDUALS

10 % HH POPULATION NON-RELATIVES OF HEAD

11 % MALES 25 + SINGLE

2 % FEMALES 25 + SINGLE AL HOUSEHOLD CHARACTERISTICS
MEDIAN HOUSEHOLD SIZE
X HOUSEHOLDS SIALL, ONE PERSON
X HOUSEHOLDS LARGE, SIX OR MORE PERSONS
X CHILDREN LIVING WITH BOTH PARENTS
O SEX RATIO (MALES PER 100 FEMALES)
I FERTILITY RATIO (UNDER 5 PER 1000 FEM 15X HOUSEHOLDS HUSBAND-WIFE : WHITE
X HOUSEHOLDS HUSBAND-WIFE : NEGRO Y LIFE CYCLE

MEDIAN AGE HOUSEHOLD HEAD: WHITE
F MEDIAN AGE HOUSEHOLD HEAD: NEGRO
OUTH DEPENDENCY RATIO, WHITE
YOUTH DEPENDENCY RATIO, WHITE
YOUTH DEPENDENCY RATIO, WHITE
AGED DEPENDENCY RATIO, NEGRO
OXFAMILIES WITH CHILDREN
IN FAMILIES CHILDBEARING ONLY
IN FAMILIES CHILDBEARING COMPLETED ### CONTIONAL STATUS (CONT)
6-39 % WHITES 18+ CONPLETED HIGH SCHOOL
6-40 % NEGROES 18+ CONPLETED HIGH SCHOOL
6-41 % WHITES 18-24 CONPLETED HIGH SCHOOL
6-42 % NEGROES 18-24 CONPLETED HIGH SCHOOL
6-42 % NEGROES 18-24 CONPLETED HIGH SCHOOL
6-43 HIGH EDUCATIONAL STATUS, PERSONS 25+ (%) DIVORCED OR SEPARATED
+ DIVORCED OR SEPARATED
+ MIDGULED
FEMALE HEADED
HEADED W/ OWN CHILDREN < 18 SYSTEM : BIOMETRY A COMPOSITION % PERSONS SOUTH OR EAST EUROPEAN STOCK % PERSONS SPANISH AMERICAN HERITAGE MENTAL HEALTH DEMOGRAPHIC PROFILE STATISTIIC DESCRIPTION FAMILIES MALES 14 + 1 FEMALES 14 + FEMALES 14 + HOUSEHOLDS F HH, FEMALE H GENERAL 6-46 6-47 6-47 6-48 6-50 6-51 6-53 ISRUPTI 6-73 6-74 6-75 6-75 6-77 PERSONS AMILY 6-154 6-154 6-154 6-158 6-159 6-61 6-61 6-63 6-44 6-44 6-45 6-65 6-66 6-67 6-68 6-69 6-70 6-71

3. 14. 11. 85. 411. 62. 5447 8583. 1127. 1147. 1137.

35. 11. 16. 20. 7. 6. 11. 19.

# Exhibit 9 (continued)

# The 1970 Mental Health Demographic Profile

(CONTINUED) TABLE 6

### CONDITIONS ### CO	MENTAL HEALTH DEMOGRAPHIC PROFILE SYSTEM: SEIDEVELOPED JOINTLY BY THE DIVISIONS OF BIOMETRY AND STATEMENT OF	ECTEI MENT/	CITY CHC, MD. INDICATORS FROM AL HEALTH SERVICE	THE 1970 C PROGRAMS, CONPAR	CENSUS, 100% N I M H	AND SAMPL	E TABULATIONS	
NON-NEGRO	VACANT STANDARD :		63227 38838 21435	5.3 97.0 97.3	1	1 040		 
MEDLE HOMES 56.7 60273 55.5 41.2 37.1 ENTS. COLONIT 3.8 63227 6.1 5.9 6.8 6.8 6.2 6.5 6.2 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.2 6.5 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2	G: NON-NEGRO G: NEGRO DED HOUSING	11.1 14.4 34.9 4.8	60273 113645 83134 196779					HЮ
AR): WHITE 20.5 115189 18.7 21.8 23.2 65.5 64.1 65.9 24.6 65.9 83730 24.1 25.5 24.6 65.9 44.3 48.5 48.5 47.0 10.2 23.6 19.5 19.5 10.2 23.6 19.5 6.4 18.0 10.2 23.6 19.5 6.4 18.0 10.2 23.6 19.5 6.4 19.5 11.2 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.2 11.3 11.3	RENTER OCCUPIED TRAILERS OR MOBILE HOMES LARGE APARTMENTS-20 UNIT SINGLE DETACHED: NEGRO SINGLE DETACHED: NEGRO		60273 63227 63227 53269 38946 21321 198894		39.75			m või
CHOOL CHOOL CHOOL CHOOL NEGRO 9.9 7166 10.0 11.3 11.2 18 MORKING 45.4 27046 47.3 42.0 40.8 11.3 11.2 11.2 11.2 11.2 11.2 11.2 11.2 11.2	AR): WHIT AR): WEGR 65) THAN 1965	0000	518 573 577 03	8440	-10.60			0140
	CHOOL, NEGRO CHOOL, NEGRO 6 WORKING 6 WORKING (65 +) OWDED W/O PL HILDREN: NEGR INCOME EADED & IN P D LE TO WORK IT		23 25 25 25 25 25 25 25 25 25 25 25 25 25			7100770017		14W H 0H

## Exhibit 10

## The 1980 Mental Health Demographic Profile

MHDPS Table 1. A general demographic profile from the Mental Health Demographic Profile System
(Social indicators from the 1980 Census of Population and Housing—100 percent sample items)

## Item Heading and Description

## General Population Data

- (1) Total population
- (2) Number of males (in households)
- (3) Number of females (in households)
- (4) Population in group quarters

## Ethnic Composition

- (5) Percent of household
  - a. Black
  - b. White
  - c. American Indian
  - d. Asian
  - e. Spanish Origin

## Socioeconomic Status

### **Economic Status**

- (6) Income of families: median income of families
- (7) Income of unrelated individuals: median income of unrelated individuals 15 and over
- (8) Population in poverty: percent of population below poverty level

## **Educational Status**

(9) High school completion: percent of persons 18-64 who have completed at least 4 years of high school

## Household Composition and Family Structure

- (10) Husband-wife households: percent of households with husband-wife families
- (11) Nonfamily households: percent of households in which the householder is a primary individual
- (12) Youth dependency ratio: persons under 18 per 100 persons 18-64 in household population
- (13) Aged dependency ratio: persons 65 and over per 100 persons 18-64 in household population
- (14) Families with children: percent of families with own children under 18
- (15) Husband-wife families with children: percent of husband-wife families with own children under 18
- (16) Group quarters excluding institutions: percent of total population who live in rooming houses and other noninstitutional group quarters

## Housing Characteristics

- (17) Single dwelling units: percent all year-round housing units that are single detached or attached (excluding mobile homes/trailers)
- (18) Modular homes: percent of year-round dwelling units that are modular homes (mobile homes and trailers)
- (19) Renter occupancy: percent of occupied housing units that are renter occupied

## Condition of Housing

- (20) Highly overcrowded housing: percent of occupied housing units with 1.51 or more persons per room (by race)
- (21) Standard housing: percent of occupied housing units with complete plumbing for exclusive use
- (22) Vacancy index: percent of all year-round housing units that are vacant

## Community Instability

- (23) Migrants: percent of population 5 and over residing in a different county than in 1975 (1975 residence known)
- (24) Long-established households: percent of occupied housing units into which the householder moved prior to 1970

### Exhibit 10

## The 1980 Mental Health Demographic Profile

MHDPS Table 2. High risk indicators from the Mental Health Demographic Profile System (Social indicators from the 1980 Census of Population and Housing—100 percent sample items)

## Item Heading and Description

## General Population Data

- (1) Total population
- (2) Number of males (in households)
- (3) Number of females (in households)
- (4) Population in group quarters

## Ethnicity

(5) Minority population: percent of household population (Spanish origin, Black, American Indian, Asian)

## Socioeconomic Status

## **Economic Status**

- (6) Population in poverty: percent of population below poverty level
- (7) Percent of unrelated individuals in poverty

### **Educational Status**

- (8) Low educational status: percent of persons 25 and over with 8 years or less education
- (9) Teenagers not in school: percent of population 14-17 not enrolled in school
- (10) Low educational status, young adults: percent of persons 18-64 with 8 years or less education

## Household Composition and Family Structure

## Marital Status

- (11) Separated males: percent of males 15 and over who are separated
- (12) Separated females: percent of females 15 and over who are separated
- (13) Widowed males: percent of males 15 and over who are widowed
- (14) Widowed females: percent of females 15 and over who are widowed
- (15) Divorced males: percent of males 15 and over who are divorced
- (16) Divorced females: percent of females 15 and over who are divorced

## Nonfamily Households

(17) Nonfamily households: percent of households in which the householder is a primary individual

## Households With Children

- (18) Children not living with both parents: percent of persons under 18 in households, not living with both parents
- (19) One parent families: percent of families with own children that have one parent
- (20) Female headed families with children in poverty: percent of families with at least one related child under 18 that are female headed and below poverty level
- (21) Children in poverty: percent of related children under 18 below poverty level
- (22) Working mothers of preschool children: percent of women 16 and over with children of their own under 6 and who are in the labor force

## Exhibit 10 (continued)

## The 1980 Mental Health Demographic Profile

MHDPS Table 2. High Risk Indicators from the Mental Health Demographic Profile System (Social indicators from the 1980 Census of Population and Housing—100 percent and sample items) (continued)

## Item Heading and Description

## Older Households

- (23) Households with aged persons living alone: percent of households that are one person households with householder 65 and over
- (24) Households with aged persons living alone and in poverty: percent of households that are one person households with householder 65 and over below the poverty level
- (25) Aged persons in poverty: percent of persons 65 and over below the poverty level

## Other Population Characteristics

- (26) Adult sex ratio: males 18-64 per 100 females 18-64 (in households)
- (27) Disabled population: percent of persons 16-64 not in institutions who are disabled or handicapped
- (28) Disabled population unable to work: percent of persons 16-64 not in institutions who are disabled or handicapped and who are unable to work

## Housing Conditions

(29) Extremely crowded housing units lacking plumbing facilities: percent of occupied housing units with 1.51 or more persons per room and without complete plumbing facilities

## Community Instability

- (30) Recent movers: percent of population who moved into present residence 1979-80
- (31) Migrants: percent of population 5 and over residing in a different county than in 1975 (1975 residence known)

## Exhibit 11.

Race and ethnic populations for which the 1980 Mental Health Demographic Profile System will provide data

Data will be available for the following populations when they have 200 or more persons in an area.

White Black American Indian, Eskimo and Aleut American Indian Asian and Pacific Islander Spanish Origin

☆ U.S. GOVERNMENT PRINTING OFFICE: 1982-361-166:384

NIH Library, Building 10 National Institutes of Health Bethesda, Md. 20205





http://nihlibrary.nih.gov

10 Center Drive Bethesda, MD 20892-1150 301-496-1080



## DEPARTMENT OF HEALTH AND HUMAN SERVICES

PUBLIC HEALTH SERVICE

ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION 5600 FISHERS LANE ROCKVILLE, MARYLAND 20857

OFFICIAL BUSINESS
Penalty for private use, \$300





05150 376471
NIH LIBFARY \*CQUI UNIT
BIDG \*10, KM \*11-13
3000 ROCKVILLE PIKE
BETHEOD: MD

20014

## **NOTICE OF MAILING CHANGE**

- ☐ Check here if you wish to discontinue receiving this type of publication.
- ☐ Check here if your address has changed and you wish to continue receiving this type of publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label and publication number still affixed and send to:

Alcohol, Drug Abuse, and Mental Health Administration Publications PHS Printing and Reproduction Management Branch 5600 Fishers Lane (Rm. 5B-19) Rockville, Maryland 20857

DHHS Publication No. (ADM)82-1189 Printed 1982